



### **Mid-Life Risk Factors for Alzheimer's Disease**

During a recent BCAT training program, the instructor was asked why some people with Alzheimer's disease (AD) have relatively few plaques and tangles and others have many. Generally speaking, the amyloid plaques and *neurofibrillary* tangles are considered the primary causes of AD, so the question raised during the training program was a very good one. In our view, understanding the causal factors of AD is complex, and just focusing on tangles and plaques is too simplistic. We emphasize the importance of identifying risk factors for AD that may or may not contribute to the production of plaques and tangles, but may cause AD and related dementias. Moreover, lifestyle and specific health factors during the mid-life years may be critical in determining whether ones develops AD or other dementias.

Two review-based studies provide some insights. In their review of the literature, Barnes and Yaffe (2011) identified seven largely modifiable risk factors for AD. They were physical inactivity, obesity, smoking, low education, depression, diabetes, and hypertension. The researchers estimate that up to half of AD cases worldwide (17 million) and in the US (nearly 3 million) are potentially attributable to these factors. Furthermore, a 10–25% reduction in all of these risk factors could potentially prevent between 1-3 million AD cases worldwide and 184,000–492,000 cases in the US. Similarly, based on a meta-analysis, Jin-Tai Yu and colleagues (2015) identified nine risk factors that might explain up to 67% of AD cases. These were obesity, carotid artery narrowing, low educational achievement, hyperhomocysteine (a type of amino acid), depression, hypertension, frailty, current smoking, and type 2 diabetes (Asian-background populations).

Many of the risk factors identified in these studies are closely correlated. To make it simple, we suggest that people in their middle years embrace six healthy lifestyle behaviors, and that they be integrated into daily living. These are: physical exercise, no smoking, treat depression if and when it occurs, keep blood pressure within normal ranges, keep weight at healthy levels, and add cognitive challenges to your daily routine (use evidence-based cognitive exercise).

One easy way to remember to practice these brain-healthy behaviors is to use this acronym:

**ANTHEM**

**A** – Add cognitive stimulation

**N** – No smoking

**T** – Treat depression

**H** – Healthy weight

**E** – Exercise

**M** – Manage hypertension

The good news is that these behaviors are largely within your control! So, while you cannot prevent AD with any certainty, you can choose a lifestyle that reduces your risk of AD and related dementias.

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Have a question? Please email us at [info@thebcat.com](mailto:info@thebcat.com).